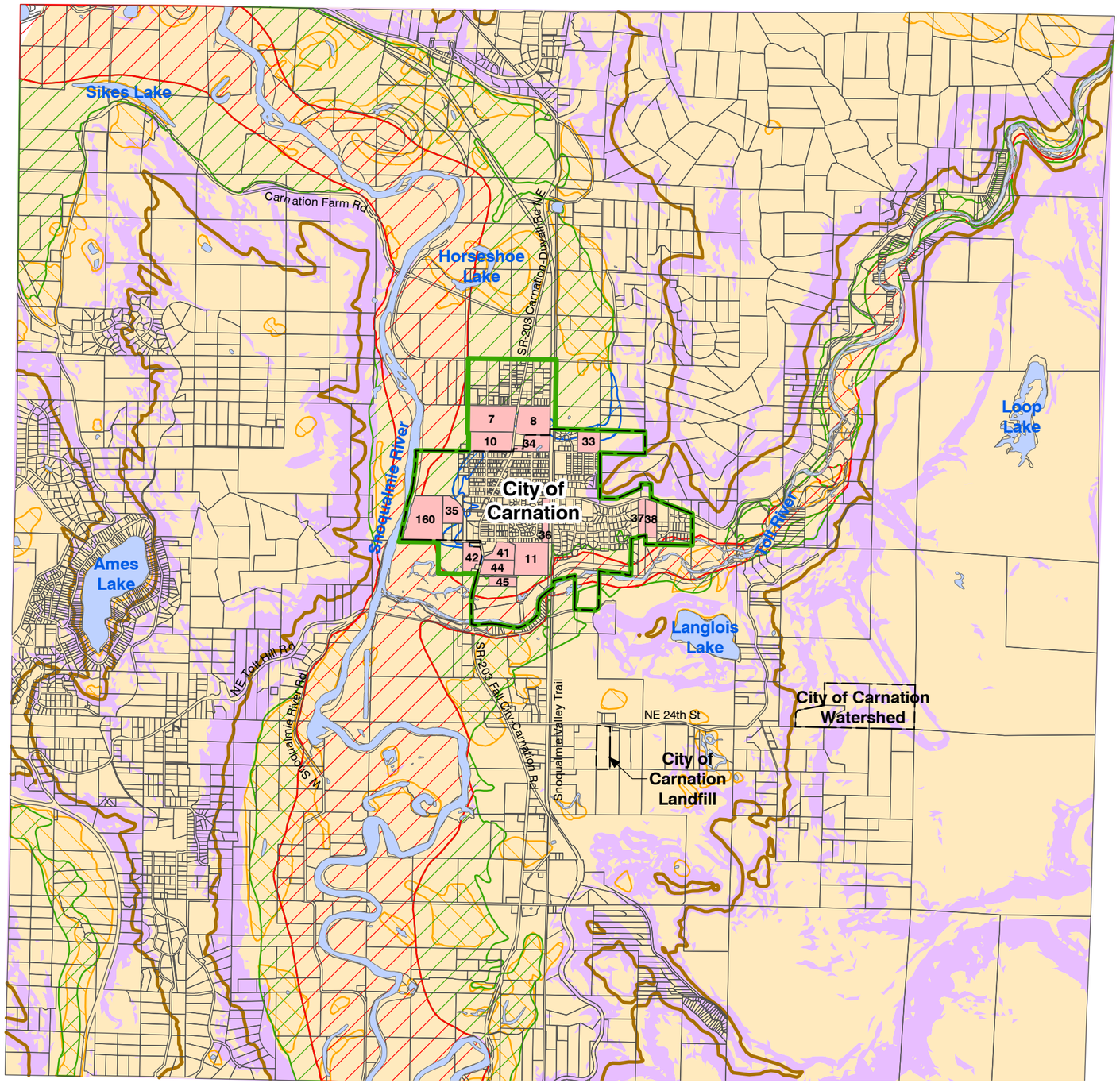
Carnation

Wastewater Treatment Plant

Appendix B - WWTP Coarse Screening Results

King County

July 2003



3,500 1,750 0 3,500
Feet

N

LEGEND

- Treatment Plant Study Area (Urban Growth Area Boundary)
- Potential WWTP Site
- Water Body
- Wetland

Floodplain

- Floodway
- 500 Year
- 100 Year

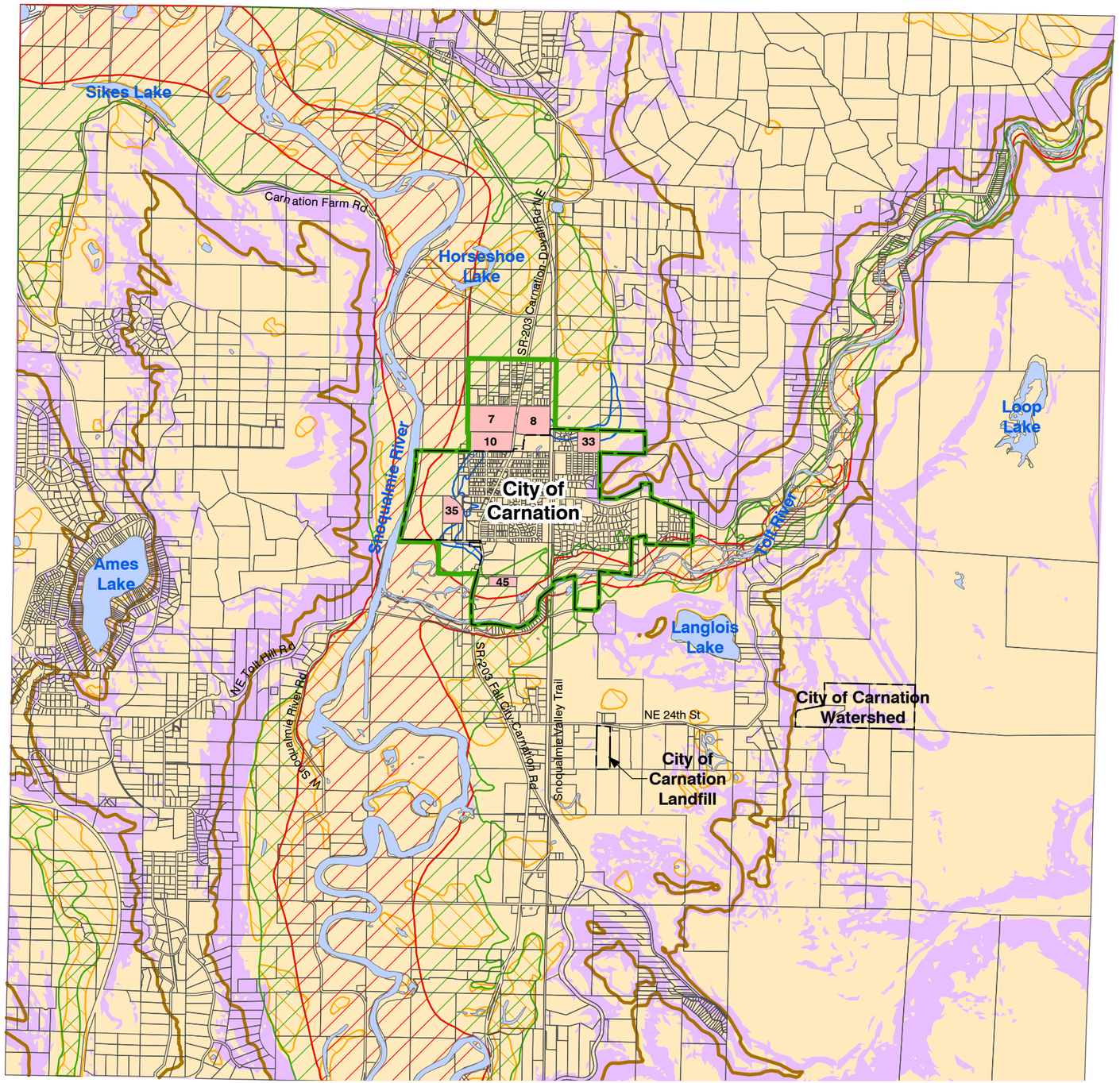
Slope

- Slope < 10%
- Slope >10%
- Carnation Boundary
- Parcel Boundary

POTENTIAL WASTEWATER TREATMENT PLANT SITES BASED ON COARSE SCREENING CRITERIA

CARNATION WASTEWATER TREATMENT FACILITY
KING COUNTY DEPARTMENT OF
NATURAL RESOURCES AND PARKS

C:\Client\King_Co-DNR\kcodata-condensed\wwtp_coarse_es.pdf
June 27, 2003



3,500 1,750 0 3,500
Feet

N

LEGEND

- Treatment Plant Study Area (Urban Growth Area Boundary)
- Potential WWTP Site
- Water Body
- Wetland

Floodplain

- Floodway
- 500 Year
- 100 Year

Slope

- Slope < 10%
- Slope >10%
- Carnation Boundary
- Parcel Boundary

POTENTIAL WASTEWATER TREATMENT PLANT SITES BASED ON FINE SCREENING CRITERIA

CARNATION WASTEWATER TREATMENT FACILITY
KING COUNTY DEPARTMENT OF
NATURAL RESOURCES AND PARKS

C:\Client\King_Co-DNR\kcodata-condensed\wwtp_fine_es.pdf
June 27, 2003

City of Carnation
Wastewater Treatment Plant
Fine Screening Evaluation
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CAC Siting Process Issues Highlighted

Low
Medium
High

Subject Group	Characteristic	Questions	Scale	Probable Impacts						
				Site 7	Site 8	Site 10	Site 11	Site 33	Site 34	Site 35 (City of Carnation Shefer Site)
Land Use Compatibility and Acquisition	Compatible with surrounding land uses	Does the proposed facility comply with City code allowable uses? Does use preclude higher economic uses?	**High:** Not compatible, precludes economic development							
			Medium: Conditional use or variance required, may affect economic development							
			Low: Compatible, allowed use, no impact on economic development							
	Land use change requirement	What type of land use change will be required to permit the project to be constructed on the site?	**High:** Zoning change required or significant obstacles to obtaining a conditional use permit							
			Medium: Conditional use permit required							
			Low: Allowed use							
	Property easily converted to utility use	Who owns the site and what is it currently used for?	**High:** Occupied private industrial, commercial or residential property, acquisition may delay schedule							
			Medium: Vacant private industrial, commercial or residential property or agricultural land, acquisition will not delay schedule							
			Low: City of Carnation or King County owned property							
	Area and cost of private property acquisition	What is the estimate of area and costs of private property that must be acquired for the project?	**High:** Occupied private industrial, commercial or residential property - acquisition cost based on the value of land and significant improvements.							
			Medium: Vacant private industrial, commercial or residential property or agricultural land - acquisition cost based primarily on land value.							
			Low: Parcel size and value consistent with needs - no cost or already owned.							
			Red	3	3	3	3	3	4	0
			Yellow	1	1	1	1	1	0	0
			Green	0	0	0	0	0	0	4
			Red and Yellow	4	4	4	4	4	4	0
Geographic Location	Visual Impacts	Is the site visible to other uses?	**High:** Visible near businesses or residential areas. Substantial screening required including landscaping and architectural.							
			Medium: Separation from businesses or residential areas. Limited screening required, mainly landscaping.							
			Low: Site in isolated, rural area							
	Traffic disruption	To what extent will facility construction and operation affect traffic?	**High:** No, or inadequate roads, major improvements required for safety or durability							
			Medium: Adequate roads, some improvement needed for safety or durability							
			Low: Roads adequate for traffic volume, loads, safety							
	Separation from other uses	To what extent will facility construction and operation affect adjacent uses or pedestrian circulation?	**High:** Will unavoidably affect adjacent residential or recreational uses and/or pedestrian circulation - mitigation possible.							
			Medium: Will unavoidably affect adjacent commercial or industrial properties - mitigation possible.							
			Low: Will not affect residential uses or commercial, and recreational circulation or uses.							
	Access to infrastructure	Is there adequate access to water, electricity, telephone and other required infrastructure?	**High:** > 2 miles							
			Medium: 1/2 - 2 miles							
			Low: <1/2 miles							
	Distance from River Discharge Locations	What is the estimated distance from the treatment plant to the potential river discharge locations?	**High:** > 2 miles							
			Medium: 1/2 - 2 miles							
			Low: <1/2 miles							
	Distance from Upland Discharge Area	What is the estimated distance from the treatment plant to the recommended upland discharge areas?	**High:** > 1-1/2 miles							
			Medium: 1/2 - 1-1/2 miles							
			Low: <1/2 miles							
	Flooding	Would the facility be located in an area with known flooding problems?	**High:** Located in designated FEMA 100 year flood plain							
			Medium: Partially located in designated 100 year flood plain							
			Low: Not located in flood plain							
			Red	3	3	3	2	3	3	2
			Yellow	2	2	3	3	2	1	2
			Green	2	2	1	2	2	3	3
			Red and Yellow	5	5	6	5	5	4	4

City of Carnation
Wastewater Treatment Plant
Fine Screening Evaluation
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CAC Siting Process Issues Highlighted

Low
Medium
High

Subject Group	Characteristic	Questions	Scale	Probable Impacts						
				Site 7	Site 8	Site 10	Site 11	Site 33	Site 34	Site 35 (City of Carnation Shefer Site)
Technical Feasibility	Area Size and Shape	Is the size of the useable area adequate to allow flexibility for design, projected expansion, and long-term operation? Does the shape of the useable area allow for efficient arrangement, support facilities, and projected future expansions?	**High:** Size and shape substantially limits flexibility for design, expansion, and operation							
			Medium: Size and shape adequate and provides moderate level of flexibility							
			Low: Size and shape ample for long-term use.							
	Groundwater Level	Does the groundwater impact use of the site or increase construction costs?	**High:** < 5 ft from surface							
			Medium: 5 - 20 ft from surface							
			Low: > 20 ft from surface							
	Presence of Contamination	Are contaminated soils and/or groundwater present within the site and conveyance areas?	**High:** Presence of known/documented contamination at usable portion of site that prevent or deter mitigation.							
			Medium: Presence of known contamination that allows use without disturbance							
			Low: No documented contamination on site							
			Red	1	1	1	1	1	1	1
			Yellow	0	0	0	0	0	0	0
			Green	2	2	2	2	2	2	2
			Red and Yellow	1	1	1	1	1	1	1
Environmental Impacts	Shoreline Management	Does the site or the conveyance system lie within the Shoreline Management Zones of either the City of Carnation or King County?	**High:** The site and conveyance system are within 200 ft of the shorelines of lakes, rivers or streams							
			Medium: The site or conveyance system are within 200 ft of the shorelines of lakes, rivers or streams							
			Low: The site and conveyance system are not within 200 ft of the shorelines of lakes, rivers or streams							
	Sensitive Areas, Wetlands, Wetland Buffer, Stream, and/or Stream Buffer Impacts	Will construction of the proposed facilities or conveyance system disturb any of the designated sensitive areas of the City of Carnation or King County?	**High:** The site or conveyance system disturb sensitive areas of both of the listed jurisdictions							
			Medium: The site or conveyance system disturb sensitive areas of one listed jurisdiction							
			Low: The site and conveyance system do not disturb sensitive areas of the listed jurisdictions							
	Endangered Species	Would proposed site and conveyance system affect threatened/endangered/candidate species habitat?	**High:** Facility footprint may unavoidably result in direct modification or elimination of habitat important/unique to listed and/or threatened/endangered/candidate species.							
			Medium: Facility footprint may result in unavoidable impacts to buffer of listed threatened/endangered/candidate species.							
			Low: Facility footprint would result in minimal impacts to listed threatened/endangered/candidate species.							
	Wells	Would the facility footprint require additional mitigation measures to protect a potable public water system?	**High:** Facility footprint would fall within 1000-ft of a potable water supply well							
			Medium: Facility footprint would fall within 2,000-ft a potable water supply well							
			Low: No potable water supply wells within 2,000 ft.							
			Red	1	1	0	1	1	0	0
			Yellow	0	0	1	1	0	1	1
			Green	3	3	3	2	3	3	3
			Red and Yellow	1	1	1	2	1	1	1
			Total Red	8	8	7	7	8	8	3
			Total Yellow	3	3	5	5	3	2	3
			Total Green	7	7	6	6	7	8	12
			Total Red and Yellow	11	11	12	12	11	10	6
			Wastewater Treatment Plant Site Comments				Exclude from Evaluation - School Athletic Fields		Exclude from Evaluation - School	

City of Carnation
Wastewater Treatment Plant
Fine Screening Evaluation
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	Low
CAC Siting Process Issues Highlighted	Medium
	High

Subject Group	Characteristic	Questions	Scale	Site 36	Site 37	Site 38	Site 41	Site 42	Site 44	Site 45	Site 160 (King County Site)
				Probable Impacts							
Land Use Compatibility and Acquisition	Compatible with surrounding land uses	Does the proposed facility comply with City code allowable uses? Does use preclude higher economic uses?	**High:** Not compatible, precludes economic development								
			Medium: Conditional use or variance required, may affect economic development								
			Low: Compatible, allowed use, no impact on economic development								
	Land use change requirement	What type of land use change will be required to permit the project to be constructed on the site?	**High:** Zoning change required or significant obstacles to obtaining a conditional use permit								
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	Property easily converted to utility use	Who owns the site and what is it currently used for?	**High:** Occupied private industrial, commercial or residential property, acquisition may delay schedule								
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	Area and cost of private property acquisition	What is the estimate of area and costs of private property that must be acquired for the project?	**High:** Occupied private industrial, commercial or residential property - acquisition cost based on the value of land and significant improvements.								
			Medium: Vacant private industrial, commercial or residential property or agricultural land - acquisition cost based primarily on land value.								
			Low: Parcel size and value consistent with needs - no cost or already owned.								
			Red	1	3	3	3	1	3	2	0
			Yellow	1	1	1	1	3	1	1	2
			Green	2	0	0	0	0	0	1	2
			Red and Yellow	2	4	4	4	4	4	3	2
Geographic Location	Visual Impacts	Is the site visible to other uses?	**High:** Visible near businesses or residential areas. Substantial screening required including landscaping and architectural.								
			Medium: Separation from businesses or residential areas. Limited screening required, mainly landscaping.								
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	Traffic disruption	To what extent will facility construction and operation affect traffic?	**High:** No, or inadequate roads, major improvements required for safety or durability								
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			Low: Roads adequate for traffic volume, loads, safety								
	Separation from other uses	To what extent will facility construction and operation affect adjacent uses or pedestrian circulation?	**High:** Will unavoidably affect adjacent residential or recreational uses and/or pedestrian circulation - mitigation possible.								
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			Low: <1/2 miles								
	Flooding	Would the facility be located in an area with known flooding problems?	**High:** Located in designated FEMA 100 year flood plain								
			Medium: Partially located in designated 100 year flood plain								
			Low: Not located in flood plain								
			Red	2	2	2	3	4	3	2	3
			Yellow	2	1	1	1	1	2	2	2
			Green	3	4	4	3	2	2	3	2
			Red and Yellow	4	3	3	4	5	5	4	5

City of Carnation
Wastewater Treatment Plant
Fine Screening Evaluation
DRAFT

	Low
CAC Siting Process Issues Highlighted	Medium
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Subject Group	Characteristic	Questions	Scale	Site 36	Site 37	Site 38	Site 41	Site 42	Site 44	Site 45	Site 160 (King County Site)
				Probable Impacts							
Technical Feasibility	Area Size and Shape	Is the size of the useable area adequate to allow flexibility for design, projected expansion, and long-term operation? Does the shape of the useable area allow for efficient arrangement, support facilities, and projected future expansions?	**High:** Size and shape substantially limits flexibility for design, expansion, and operation								
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	Groundwater Level	Does the groundwater impact use of the site or increase construction costs?	**High:** < 5 ft from surface								
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	Presence of Contamination	Are contaminated soils and/or groundwater present within the site and conveyance areas?	**High:** Presence of known/documented contamination at usable portion of site that prevent or deter mitigation.								
			Medium: Presence of known contamination that allows use without disturbance								
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			Red	1	1	1	1	1	1	1	1
			Yellow	1	1	1	0	0	0	0	0
			Green	1	1	1	2	2	2	2	2
			Red and Yellow	2	2	2	1	1	1	1	1
Environmental Impacts	Shoreline Management	Does the site or the conveyance system lie within the Shoreline Management Zones of either the City of Carnation or King County?	**High:** The site and conveyance system are within 200 ft of the shorelines of lakes, rivers or streams								
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			Low: No potable water supply wells within 2,000 ft.								
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			Yellow	1	1	1	0	0	0	0	0
			Green	3	2	2	3	3	3	3	2
			Red and Yellow	1	2	2	1	1	1	1	2
			Total Red	4	7	7	8	7	8	6	6
			Total Yellow	5	4	4	2	4	3	3	4
			Total Green	9	7	7	8	7	7	9	8
			Total Red and Yellow	9	11	11	10	11	11	9	10
			Wastewater Treatment Plant Site Comments	Exclude from Evaluation - City Park	Exclude from Evaluation - Occupied Urban Residential - Shape/Buffer Restrictions	Exclude from Evaluation - Occupied Urban Residential - Shape/Buffer Restrictions	Exclude from Evaluation - School	Exclude from Evaluation - Carnation Tree Farm - Historic Site According to the City - Visible Entrance to Town	Exclude from Evaluation - School		Exclude from Evaluation - County Park